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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JONATHAN LEE SULLIVAN

Appeal 2009-004845
Application 09/477,954
Technology Center 2600

Decided: December 9, 2009

Before ROBERT E. NAPPI, KARL D. EASTHOM, and
BRADLEY W. BAUMEISTER, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals¹ under 35 U.S.C. § 134(a) from the rejection of claims 3-10 and 12-14. The Examiner objected to claim 11 as being allowable if rewritten in independent form. No other claims are pending. (Br. 1, 3.) We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellant invented an internal 20 and external 22 antenna combination for a wireless telephone handset 10. The internal antenna 20 comprises an antenna plastic mold or housing carrying a metal conductive antenna such as a “meander line, micro-strip patch, or another antenna design.” (Spec. 4:13-15.) The external antenna 22 slides into and out of the internal antenna unit 20. An RF port 18 is attached to the internal antenna 20. (Spec. 4: 1-22; Figs. 1-2.)

Exemplary claim 5 follows:

5. A wireless communication device, comprising:
 - a housing;
 - a transceiver circuit disposed within said housing;
 - an internal antenna disposed within said housing; and
 - an external, retractable antenna movably mounted on said internal antenna and being movable between a retracted position and an extended position with respect thereto;

¹ Appellant’s Brief (filed July 14, 2008) (“Br.”) and the Examiner’s Answer (mailed Oct. 8, 2008) (“Ans.”), are referenced in this opinion.

said internal antenna being in circuit with said transceiver circuit when said external antenna is in its said retracted position;

said internal antenna being out of circuit with said transceiver circuit when said external antenna is in its said extended position;

said external antenna being in circuit with said transceiver circuit when in its said extended position;
and

said external antenna being out of circuit with said transceiver circuit when in its said retracted position.

The Examiner relies on the following prior art references:

Egashira	US 4,862,182	Aug. 29, 1989
Inubushi	US 5,109,539	Apr. 28, 1992
Swope	US 5,663,692	Sept. 2, 1997

The Examiner rejected claims 5-7 as anticipated under 35 U.S.C. § 102(b) based on Inubushi; claims 3, 4, 8, and 9 as obvious under 35 U.S.C. § 103(a) based on Inubushi, Egashira, and Swope; claims 10, 12, and 13 as obvious under 35 U.S.C. § 103(a) based on Inubushi and known prior art; and claim 14 as obvious under 35 U.S.C. § 103(a) based on Inubushi, known prior art, Egashira, and Swope.

ISSUE

Appellant contends (Br. 10-11) that Swope does not disclose an external antenna mounted on an internal antenna as claim 5 requires, raising the following issue: Did Appellant show that the Examiner erred in finding that Inubushi discloses an external antenna mounted on an internal antenna as claim 5 requires?

Appellant also contends (Br. 11-12) that Egashira does not disclose a remote RF port as claims 3, 4, 8, and 9 require. The Examiner found (Ans. 5-6) that Inubushi, Egashira and Swope collectively teach the RF port limitation. Appellant's contention raises the following issue: Did Appellant show that the Examiner erred in finding that the references collectively teach an "RF port . . . mechanically connected to said internal antenna" as claims 3, 4, 8, and 9 require?

FINDINGS OF FACT (FF)

Appellant's Disclosure

1. As indicated *supra* in the "STATEMENT OF THE CASE"² section, Appellant's internal antenna 20 comprises an antenna plastic housing carrying a metal plated internal antenna conductive portion – e.g., "meander line, micro-strip patch, or another antenna design."

As also indicated *supra*, Appellant's disclosed external antenna 22 slides into and out of the housing portion of internal antenna 20. (*See* Fig. 1.) Appellant does not describe the external antenna 22 as "mounted on" the internal antenna 20 anywhere in the Specification as originally or currently filed.

On the other hand, Appellant describes "[a]n external retractable antenna . . . mounted on the housing . . . selectively movable between a retracted position and an extended position. (Abstract (emphasis added).) The housing referenced in the preceding sentence constitutes a "telephone handset . . . housing" (having "[a]n internal antenna . . . disposed within the housing . . .") (Abstract.) In other words, the term "housing" in this

² These factual findings will hereinafter be included in any reference to "FF 1."

paragraph refers to the handset housing - not the housing portion of the internal antenna 20 described *supra*.

Appellant also states that the “[i]nternal antenna 20 is *provided or mounted* in the interior of the handset 10” (Spec. 4:10-11 (emphasis added).) Figure 3 shows an exploded view of antenna element 20 indicating that internal antenna 20 is provided, or placed into, the handset housing 12, 14.

The external antenna and the conductive portion of the internal antenna are attached to a switching mechanism which selects which antenna to attach to a transceiver circuit depending on the external antenna position, but the two antennas are electrically disconnected from each other. (Spec. 2:15-20, 4:23-25; Claims 6 and 7.)

Inubushi

2. A reduced version of Inubushi's Figures 4-6 appear below:

FIG. 6 (PRIOR ART)



FIG. 5 (PRIOR ART)

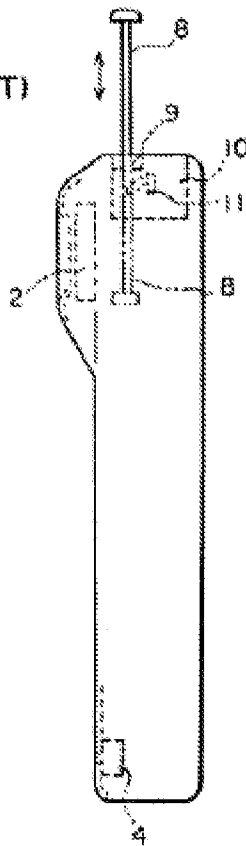
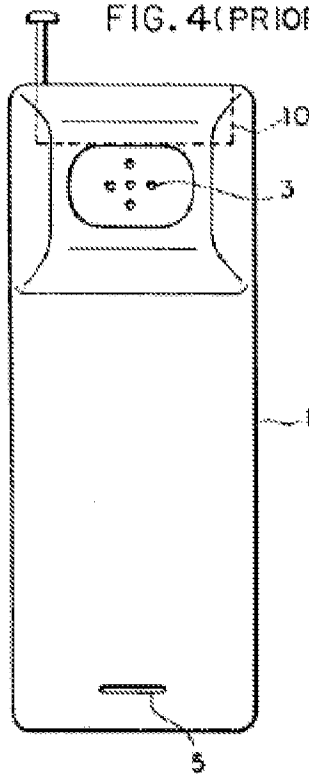


FIG. 4 (PRIOR ART)



Inubushi's Figures 4-6 above depict different views of a portable telephone housing 1 having an "internal antenna unit 10," external antenna unit 8, mounting element 9, and switch 11 connecting the two antennas. (Col. 1, ll. 28-39.)

Inubushi states that "element 9 is a member for mounting the external antenna 8 to the housing and electrically connecting it thereto. Element 10

is an internal antenna unit contained in the housing 1 and 11 is a change-over switch for switching to and from the internal antenna 10 and the external antenna 8.” (Col. 1, ll. 34-39.) Upon sliding the external antenna 8 into the housing 1, the switch 11 switches from the external antenna 8 to the internal antenna 10. (Col. 1, ll. 41-49.)

Swope

3. Swope discloses an RF port 113 on a conductive switch assembly 100 for mounting an external antenna 103 to a portable two-way radio 101. (Col. 1, ll. 55-57; col. 2, ll. 3-6; Fig. 1.)

Egashira

4. Egashira discloses a portable radio telephone having an external sliding antenna 1 attached at its internal end to a cam 4 and sliding through a conductive tube 9 within the telephone case. The tube 9 or cam 4 connects to an internal sub-antenna unit 10 depending on the sliding position of the antenna 1. (Figs. 1, 2a, 2b; Abstract, col. 3, ll. 19-43.)

PRINCIPLES OF LAW

“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Appellant has the burden on appeal to show reversible error by the Examiner in maintaining the rejection. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (citation omitted).

Under § 102, Appellant may sustain this burden by showing that the prior art reference relied upon by the Examiner fails to disclose an element of the claim. “It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim.” *In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986). “A reference anticipates a claim if it discloses the claimed invention ‘such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention.’” *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995) (quoting *In re LeGrice*, 301 F.2d 929, 936 (CCPA 1962) (emphasis omitted).

Under § 103, a holding of obviousness can be based on a showing that “there was an apparent reason to combine the known elements in the fashion claimed” *KSR Int’l. Co., v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

ANALYSIS

Anticipation

Claim 5

Claim 5 recites “an external, retractable antenna movably mounted on said internal antenna.” Appellant provides no definition for the phrase “mounted on.” Appellant’s disclosure does not describe any mounting relationship between the external 22 and internal 20 antennas. On the other hand, the disclosure describes the external antenna 22 as “mounted on” the handset housing, with the external antenna sliding into and out of the internal antenna 20. The disclosure also describes the internal antenna 20 as “provided or mounted” in the handset housing. (FF 1.)

Appellant's disclosure indicates that the term "mounted on," at least as applied to the external antenna 22, reasonably means "provided in" the handset housing 12, 14 . (FF 1, *see* Fig. 3.) Appellant's disclosure also indicates that the phrase "movably mounted on" in claim 5 requires the external antenna to move, relative to the internal antenna housing (and/or the conductive antenna portion therein), only by sliding into and out of the internal antenna housing. (*See* FF 1.) This latter interpretation also comports with Appellant's use of the term "mounted on" to mean "provided in," because Appellant's external antenna is "provided in" the internal antenna housing (as the former slides into the latter).

Inubushi's external antenna 8 and internal antenna 10 are respectively mounted on and within the housing 1 at or near the top of the housing. The external antenna 8 is attached to element 9 which is attached to the housing 1 within the periphery of the internal antenna unit 10. One wall of element 9 appears to co-extend with a wall of the internal antenna unit 10. Antennas 8 and 10 are electrically and physically connected via a switch 11. External antenna 8 movably slides into internal antenna 10 without any other movement relative to it. (FF 2; *see also* Ans. 3, 4, 9.) Therefore, similar to Appellant's disclosed mounting relationship, Inubushi's, external antenna 8 is "mounted on" the internal antenna unit 10 by being securely "provided in" it and moving only by sliding relative to it, thereby satisfying the disputed phrase of claim 1.

In reading claim 5 on Inubushi's Figures 4 and 5, the Examiner reasoned as follows:

Even though Inubushi et al. state that element 9 is a member for mounting the external antenna 8 to the housing and electrically connecting it thereto, fig.4-5 of Inubushi et al. clearly show that

element 9 is mounted or is part of the internal antenna 10 and the external, retractable antenna 8 passes through (i.e., movable) element 9 and the internal antenna 10 during insertion and extraction.

(Ans. 9.)

While Appellant states (Br. 12) that “the Examiner is reading too much into the [Inubushi] Figures,” Appellant does not persuasively dispute the Examiner’s particular finding (Ans. 9) that “element 9 is mounted or is part of the internal antenna 10,” nor the Examiner’s reasoning that “passing through” constitutes mounting. Element 9 directly attaches the external antenna to the handset housing and appears to be co-extensive with a wall of the internal antenna unit 10. (*See* FF 2.) In any case, even without the Examiner’s additional finding as to element 9, according to the discussion above, passing or sliding through so as to be provided securely within the internal antenna without otherwise moving relative to it, reasonably satisfies the claimed mounting arrangement.³ As such, based on the discussion above, the relative persuasiveness of the arguments, the respective burdens on appeal, and as buttressed by the Examiner’s un rebutted finding and reasoning (Ans. 9 (quoted *supra*)), Inubushi satisfies the claimed mounting arrangement as reasonably interpreted in light of Appellant’s disclosure.

“The problem in this case is that the appellants failed to make their intended meaning explicitly clear.” *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997). “It is the applicants’ burden to precisely define the invention, not the PTO’s.” *Id.* (citation omitted). Accordingly, for the reasons explained *supra*, Appellant has not demonstrated that the Examiner erred in

³ *See Webster’s II New Riverside University Dictionary* 772-73 (1984) (“[M]ount . . . 6a. To secure firmly to a support. b. To place or fix on or in a secure place for display, study, or use.”).

finding that Inubushi's external antenna is "movably mounted on said internal antenna" as required by claim 5.

Claims 6-7

Appellant does not present separate arguments (*see* Br. 12) for dependent claims 6-7 rejected as anticipated by Inubushi and therefor also has not demonstrated Examiner error in the rejection of these claims.

Obviousness

Claims 3, 4, 8, and 9

Appellant's arguments (Br. 12) that Egashira "does not cure the defect of" Inubushi and that Egashira's "'conductive tube 9'" does not satisfy the "remote RF port [limitation] as recited in claims 3, 4, 8, and 9" do not address the Examiner's finding based on Inubushi, Egashira, and Swope. In particular, the Examiner found (Ans. 5) that "Swope teaches a remote RF port (fig. 1-2, remote RF port 113 or 213, col. 2, lines 3-29)."

Appellant does not address Swope's teachings as outlined by the Examiner. Swope discloses (FF 3) an RF port 113 for mounting an external antenna 103 that is similar to Inubushi's external antenna 8 (FF 2) and Egashira's external antenna 1 (FF 4).

Construed liberally, Appellant's arguments (Br. 12-13) against Egashira's conductive tube (as modified by Swope's remote RF port) perhaps rely on the following recitation in claims 3, 4, 8, and 9: "wherein a remote RF port is provided which is mechanically connected to said internal antenna." That is, Appellant argues (Br. 13) that Egashira's "conductive tube 9 is only mechanically connected to sub-assembly 10 when the main antenna is in the retracted position."

However, Egashira's conductive tube 9 is mechanically connected to the internal antenna sub-assembly 10 at all times, either directly when the antenna 1 is not in the extended position, or indirectly via the cam 4 when the external antenna is in the extended position. Alternatively, an indirect mechanical connection exists for all of Egashira's antenna parts through the telephone case or housing. (FF 4.)

Therefore, the record does not support Appellant's argument (Br. 13). Modifying Inubushi's antenna to include Swope's RF port and switch, and Egashira's dual antenna and conductive tube assembly, satisfies the claim limitation of "wherein a remote RF port is provided which is mechanically connected to said internal antenna."

Accordingly, Appellant has not demonstrated Examiner error in the rejection of claims 3, 4, 8, and 9.

Claims 10, 12, 13, and 14

Appellant's arguments (App. Br. 13-14) against the obviousness rejection of claims 10, 12, and 13 based on Inubushi and well known prior art, and against the obviousness rejection of claim 14 based on the additional references to Egashira and Swope, respectively rely on the arguments presented for claim 5, and claims 3, 4, 8, 9, and 10. Accordingly, for the reasons explained above, we will sustain the rejections of claims 10, 12, 13, and 14. *See In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987); 37 C.F.R. § 41.37(c)(1)(vii).

CONCLUSION

Appellant did not show that the Examiner erred in finding that Inubushi discloses an external antenna mounted on an internal antenna, as claim 5 requires, and that the references collectively teach an "RF port . . .

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mechanically connected to said internal antenna,” as claims 3, 4, 8, and 9 require.

DECISION

We affirm the Examiner's decision rejecting claims 3-10 and 12-14.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136. *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

ack

cc:

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